Plant Disease in Kansas

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Kansas Department of Agriculture
www.KSDA.gov
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Special points of interest:

- *Leaf rust poised to increase in the west water-soaked south central area of the state.*

Wheat disease update; look for a dramatic change

Wheat disease pressure in Kansas appears to be low for this time of the year. I expect it to change very soon. What has happened?

Probably the biggest thing to affect disease pressure in Kansas wheat was the spring freeze that hurt both Texas and Oklahoma wheat. This freeze killed considerable wheat leaf tissue. The freeze also killed leaf rust that was beginning to build up. Historically, this "bloom" of rust blows in and infects Kansas wheat with southerly winds. Although Kansas annually has leaf rust overwintering in the state, most of the spring epidemic originates from fields to the south primarily in Oklahoma and Texas. This infection event was "chilled". With the amount and frequency of the rainfall in the last five weeks particularly in south central Kansas, wheat fields should have considerable leaf rust problems. They don't. Growers should be aware that inoculum has reached Kansas and infection is now getting a good foothold. With some warmer temperatures and rising humidity in areas which are water-soaked, conditions should be ideal for leaf rust and the potential is for a significant increase in disease.

In south central Kansas, leaf rust had been reported on the flag leaf in early heading stages. Last week, some pustules on the flag leaf were seen as far north as Ottawa in east central Kansas and outside of Topeka.

Wheat leaf rust will increase significantly over the next ten to fourteen days in south central and central Kansas. Growers should consider fungicide treatments for crop protection based on KSU extension recommendations. Scouting fields for yield potential and early signs of disease should be high on a growers list of things to do. All fungicide application must follow labeling requirements of growth stage at time of application and post harvest interval. What other diseases are out there? Both tan spot and speckled leaf blotch are being reported. I expect black chaff and wheat scab to find some areas conducive for infection. Last year, scab was significant in eastern Kansas and black chaff had reports in north central. Wheat streak mosaic complex is low. Survey in western Kansas from the fall and this spring indicates low infection.

Greenhouse diseases

Greenhouse viral diseases have been reported at a number of sites this year. Impatiens necrotic spot of Coleus, Impatiens, and Nemesia have been detected. These inspections results led to early eradication of infection and saved major crops. Hosta virus x and cucumber mosaic have also had reports. Hosta virus x is endemically low in Kansas because of efforts by nurserymen, extension, and KDA enforcement inspectors.

Damping off was a major problem in some operations this year. The cooler poor growing conditions has led to levels of more than 50% in some varieties of vinca, marigold, petunia, and the list goes on. Three contributing factors were flats placed on cold floors, recirculation water benches, and overwatering.

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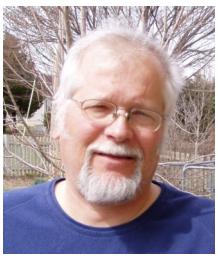

Plant Protection and Weed Control Program

Plant Protection and Weed Control staff work to ensure the health of the state's native and cultivated plants by excluding or controlling destructive pests, diseases and weeds. Staff examine and analyze pest conditions in crop fields, rangelands, greenhouses and nurseries. Action taken to control potential infestations of new pests, whether they are insects, plants diseases or weeds, is beneficial to the economy and the environment.

Our Mission is to:

- Exclude or control harmful insects, plant diseases, and weeds;
- Ensure Kansas plants and plant products entering commerce are free from quarantine pests;
- Provide customers with inspection and certification services.

The Plant Disease Survey in Kansas has been conducted since 1976. The survey addresses disease situations in field crops, native ecosystems, and horticultural trade. The Kansas Department of Agriculture works cooperatively with Kansas State University and Extension programs, United States Department of Agriculture, and various commodity groups.

1000 canker disease of walnut

The Kansas Department of Agriculture along with Kansas Forest Service and KSU Extension will monitor walnut primarily in the western half of the state beginning the summer of 2009. This disease is caused by a fungus *Geosmithia* and transmitted by a small walnut twig beetle. It is responsible for significant walnut death in New Mexico, Colorado, and California. It has the potential if Kansas conditions are favorable, to cause significant damage to the timber industry and native ecosystems.

Readers should look for more information on the survey and what arborists, nurserymen, and the general public can do in upcoming issues of this publication.

Infected trees die from the multitude of small cankers which coalesce. The fungus is transmitted to each canker site by tunneling of a small (1/4 inch in length) twig beetle. Cankers then enlarge killing large areas of cambium tissue (site of new growth) . The twig beetle can move into the state by wind currents possibly but more importantly by human activity. Movement of firewood or non treated wood for woodworking or firewood could establish the complex in a new site.

Figure 1. A shaved branch about 4-5 inches in width with a multitude of cankers by Geosmithia or 1000 Canker Disease. Ned Tisserat, Colorado State University.